



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,660	02/06/2004	Sai Yiu Ho	030351	7521
23696 7590 04/29/2009 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
CHO, UN C				
ART UNIT		PAPER NUMBER		
2617				
NOTIFICATION DATE		DELIVERY MODE		
04/29/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

kascanla@qualcomm.com

nanm@qualcomm.com

### Office Action Summary

**Application No.**

10/773,660

**Applicant(s)**

HO ET AL.

**Examiner**

UN C. CHO

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 17-20, 35-50, 52-56 and 58-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-20, 35-50, 52-56 and 58-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date April 3<sup>rd</sup> 2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/3/2009 has been entered.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 4/3/2009 has been placed in record and considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 3, 5 – 15, 17 – 20, 35 – 44, 46 – 50, 52 – 56 and 58 – 62 are rejected under 35 U.S.C. 102(e) as being anticipated by Kadaba et al. (US 7,158,504 B2).

Regarding claim 1, Kadaba teaches a base station (BS1; Fig. 8, element 152) comprising: a transceiver subsystem (the base station inherently has a transceiver subsystem (not shown) to communicate with User 1; see Fig. 8); and a processing subsystem (a processing element (not shown) is inherently incorporated into the BS1) configured to receive a request for grant (BS receives R-RUCH and R-PRCH) including an identification (the wireless unit sends the buffer size; Col. 4, line 61 through Col. 5, line 17) of a specific service class from a mobile station (the wireless units can transmit *autonomously* (at lower data rates) and/or use *scheduling* (at higher data rates); Col. 2, lines 56 – 61), the specific service class being one of a set of available service classes, each service class (*autonomously* and/or *scheduling*) corresponding to a particular type of data to be transmitted by the mobile station (depending on the data rate, the length of the data packet or the type of data; Col. 2, lines 56 – 61), to make a determination whether or not to issue a grant to the mobile station in response to the request for grant, to send a grant for the specific service class to the mobile station if a determination is made to issue the grant (BS makes a determination and issues an ACK/NACK through the F-UCACH; Col. 7, lines 37 – 61), and to receive data for the specific service class transmitted according to the grant on a reverse link from the mobile station to the base station (wireless unit transmits R-SCH (the actual data); Col. 9, lines 7 – 25).

Regarding claim 2, Kadaba teaches wherein the processing subsystem is configured to make the determination independently of a base station controller (the BS sends schedule grant to mobile on the F-USCH; Col. 9, lines 7 – 25).

Regarding claim 3, Kadaba teaches wherein the processing subsystem is configured to make the determination independently of one or more additional base stations (when multiple BS are present, each BS makes its own determination independently; Col. 12, line 43 through Col. 13, line 7).

Regarding claim 5, Kadaba teaches wherein if the processing subsystem determines that the grant should be issued to the mobile station, the base station is configured to issue the grant (the BS issues the grant on the F-USCH; Col. 9, lines 7 – 25).

Regarding claim 6, Kadaba teaches wherein the processing subsystem is configured to identify the mobile station in the grant (the wireless unit alerts the base station of its presence on the R-RUCH; Col. 4, lines 56 – 61).

Regarding claim 7, Kadaba teaches wherein the processing subsystem is configured to issue the grant as an individual grant (independently; Col. 12, line 43 through Col. 13, line 7).

Regarding claim 8, Kadaba teaches wherein the processing subsystem is configured to identify the mobile station in the individual grant (F-USCH; Col. 7, lines 9 – 14).

Regarding claim 9, Kadaba teaches wherein the processing subsystem is configured to issue the grant as a common grant (F-UCACH; Col. 7, lines 37 – 61 and Col. 8, lines 51 – 57).

Regarding claim 10, Kadaba teaches wherein the processing subsystem is configured to identify in the common grant the specific service class (scheduled or unscheduled) for which the common grant is issued (Col. 8, lines 38 – 57).

Regarding claim 11, Kadaba teaches wherein the processing subsystem is configured to issue at least one individual grant (F-USCH; Col. 7, lines 9 – 36) and at least one common grant (F-UCACH; Col. 7, lines 37 – 61).

Regarding claim 12, Kadaba teaches all the limitations including a mobile station (wireless unit (User 1); Fig. 8, element 150) comprising: a transceiver subsystem (the wireless unit is operable in a cellular communication system, thus inherently having a transceiver subsystem (not shown)); and a processing subsystem (controller (not shown)) coupled to the transceiver subsystem (not shown) and configured to process information received from the transceiver subsystem, to generate information to be transmitted by the transceiver subsystem (inherently having a controller (not shown) coupled to the transceiver to process and generate information to be transmitted), to generate a request for transmission to a base station (the wireless unit transmits the R-RUCH and the R-PRCH to BS).

Regarding claim 13, Kadaba teaches one or more buffers, wherein each buffers associated with one of the classes of service (all zeroes=autonomous and all ones=scheduling; Col. 4, line 61 through Col. 5, line 17),

Regarding claim 14, Kadaba teaches wherein the processing subsystem is configured to monitor the buffers and, for each buffer, to generate a request for

transmission if a threshold amount of data is detected in the buffer (all zeroes or all ones; Col. 4, line 61 through Col. 5, line 17).

Regarding claim 15, Kadaba teaches wherein the request for transmission for a buffer specifies the class of service associated with the buffer and the amount of data in the buffer (Col. 4, line 61 through col. 5, line 17).

Regarding claim 17, Kadaba teaches wherein the processing subsystem is configured to identify a maximum supportable traffic-to-pilot ratio in the request (R-PRCH reports the wireless unit pilot strength to the base station to enable the base station to calculate the instantaneous path loss to the wireless unit (and hence the ability of the mobile to support different data rates), thus it is possible to identify a maximum supportable traffic-to-pilot ratio; Col. 5, lines 29 – 51).

Regarding claim 18, Kadaba teaches wherein the processing subsystem is configured to generate feedback while transmitting under the grant, wherein the feedback indicates changes in the maximum supportable traffic-to-pilot ratio (wireless unit and BS negotiate a maximum data rate for autonomous transmission; Col. 13, lines 20 – 42).

Regarding claim 19, Kadaba teaches wherein the processing subsystem is configured to generate one or more additional requests for transmission to the base station if no grant is received in response to a previous request for transmission (waiting period indication option; Col. 10, line 27 through Col. 11, line 12).

Regarding claim 20, Kadaba teaches wherein if no grant is received from the base station in response to the request for transmission, the processing subsystem is

configured to autonomously transmit data to the base station (the wireless unit sends R-RUCH with zero buffer size (autonomously); Col. 11, lines 13 – 23).

Regarding claim 35, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 36, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 37, the claim is interpreted and rejected for the same reason as set forth in claim 7.

Regarding claim 38, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claim 39, the claim is interpreted and rejected for the same reason as set forth in claim 8.

Regarding claim 40, the claim is interpreted and rejected for the same reason as set forth in claim 9.

Regarding claim 41, the claim is interpreted and rejected for the same reason as set forth in claim 39.

Regarding claim 42, the claim is interpreted and rejected for the same reason as set forth in claim 11.

Regarding claim 43, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 44, the claim is interpreted and rejected for the same reason as set forth in claim 3.



Regarding claim 46, Kadaba teaches transmitting the request for grant from the mobile station to the base station (transmits the R-RUCH and the R-PRCH); if a grant corresponding to the request is issued, transmitting data in the specific service class according to the received grant (see Case 1; Col. 9, lines 10 – 25); and if no grant corresponding to the request is issued, either transmitting data in the specific service class in an autonomous mode, or transmitting a subsequent request, or both (Col. 10, line 27 through Col. 11, line 23).

Regarding claim 47, the claim is interpreted and rejected for the same reason as set forth in claim 14.

Regarding claim 48, the claim is interpreted and rejected for the same reason as set forth in claim 15.

Regarding claim 49, the claim is interpreted and rejected for the same reason as set forth in claim 17.

Regarding claim 50, the claim is interpreted and rejected for the same reason as set forth in claim 18.

Regarding claim 52, the claim is interpreted and rejected for the same reason as set forth in claim 12.

Regarding claim 53, the claim is interpreted and rejected for the same reason as set forth in claim 14.

Regarding claim 54, the claim is interpreted and rejected for the same reason as set forth in claim 15.

Regarding claim 55, the claim is interpreted and rejected for the same reason as set forth in claim 17.

Regarding claim 56, the claim is interpreted and rejected for the same reason as set forth in claim 18.

Regarding claim 58, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 59, the claim is interpreted and rejected for the same reason as set forth in claim 14.

Regarding claim 60, the claim is interpreted and rejected for the same reason as set forth in claim 15.

Regarding claim 61, the claim is interpreted and rejected for the same reason as set forth in claim 17.

Regarding claim 62, the claim is interpreted and rejected for the same reason as set forth in claim 58.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadaba in view of Padgett et al. (US 2002/0183039 A1).

Regarding claim 4, Kadaba does not specifically disclose wherein the determination is made at a medium access control layer. In an analogous art, Padgett teaches wherein the determination is made at a MAC layer (an adaptive load and coverage management (ALCM) system located at the BS, which includes a load management module, which further includes a MAC layer entity that monitors the determination of the channel grants) (Paragraphs 0018 and 0025). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that the BS of Kadaba would determine whether to grant the channel request at the MAC layer because as taught by Padgett, the determination of the channel grants in the base station occurs at the MAC layer.

Regarding claim 45, the claim is interpreted and rejected for the same reason as set forth in claim 4.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1 – 15, 17 – 20, 35 – 50, 52 – 56 and 58 – 62 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to UN C. CHO whose telephone number is (571)272-7919. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Un C Cho/  
Examiner, Art Unit 2617